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EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,225

Applicant(s)

ALLISTON ET AL.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07-16-01.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings and Specification

1. The Abstract of the disclosure is objected to because legal phraseology (i.e., means, said, comprising) should be avoided. Correction is required. See MPEP § 608.01(b).
2. The drawings and specification have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware.

Claim Objections

3. Claims 2, 3, 5-8, 15, 17 and 22 are objected to for minor informalities. Appropriate correction is required.

In claim 2, line 13, "the" in the phrase "the said process chamber" should be deleted.

In claim 3, line 2, -- a -- should be inserted before "vertical direction" for proper grammatical form. Also, in line 4, -- at least one -- should be inserted before "inlet chamber" for consistency in claim terminology. Also, in line 5, it is suggested to substitute "same" with -- at least one inlet chamber -- for clarity in claim terminology.

In claim 5, line 3; claim 7, line 2; claim 17, line 1; and claim 22, lines 3-4, 8, 10 and 14; -- at least one -- should be inserted before "inlet chamber" for consistency in claim terminology.

In claim 6, line 2, -- a -- should be inserted before "vertical direction".

In claim 8, line 4, -- at least one -- should be inserted before "set of chambers" for consistency in claim terminology.

In claim 15, line 2, "the" in the phrase "the said adjacent wall" should be deleted.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 2, it is unclear as to where the body of the claim begins, as the transition between the preamble and body is not clearly indicated by a transitional term, i.e., “comprising”. Also, the following terms lack proper positive antecedent basis: “the furnace” (line 3-4), “the furnace walls” (lines 4-5), “the interior of said process chamber” (line 5), “the roof” (line 8), “the inlet” (line 9), “the lower part” (line 10), “the outlet” (line 11) and “the upper part” (line 12). Also, it is unclear as to whether “the wall of the process chamber” (lines 10-11) refers to “a top closed barrier wall” set forth in line 8, or “side wall 42” as illustrated in FIG. 3 of the specification. Also, it is unclear as to whether “the wall of the process chamber” (lines 12) refers to “a top closed barrier wall” set forth in line 8, or “front wall 43” as illustrated in FIG. 2 and 3 of the specification. Also, in claim 2 only, it is unclear as to the structural limitation applicant is attempting to recite by the phrase, “prior to the said process chamber in the direction of the flow of said solid material” (lines 13-14), as it is unclear as to the flow direction of the solid material with respect to the other elements of the apparatus.

Regarding claim 3, it is unclear as to the structural limitation applicant is attempting to recite by the phrase, “arranged in vertical direction” (line 2), as it is unclear as to the direction with respect to the other elements of the apparatus (i.e., Does this mean that that the inlet

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chamber is placed above the process chamber? Does this mean that the inlet chamber has a greater height relative to its base?).

Regarding claim 5, “the outlet of the external circulation” lacks proper positive antecedent basis, and it is unclear as to what structural element corresponds to “the external circulation”. Also, it is unclear as to the structural limitation applicant is attempting to recite by the phrase, “provided in vertical direction” (line 2), as it is unclear as to the direction with respect to the other elements of the apparatus (i.e., Does this mean that the heat exchanger means is placed between the inlet and outlet of the process chamber? Does this mean that the heat exchanger means has a greater height relative to its width?).

Regarding claim 8, it is unclear as to the relationship between “an inlet chamber” (line 3) and the “at least one inlet chamber” set forth in claim 2, line 14. Likewise, it is unclear as to the relationship between “a process chamber” (line 3) and “a process chamber” set forth in claim 2.

Regarding claim 9, it is unclear as to the relationship between “a process chamber” (line 3) and “a process chamber” set forth in claim 2. Likewise, it is unclear as to the relationship between “an/said inlet chamber” (lines 3-4) to the “at least one inlet chamber” set forth in claim 2, line 14. Also, “both process chambers” (lines 4-5) lacks proper positive antecedent basis, since only a single process chamber is set forth in claim 2.

Regarding claim 10, it is unclear as to the relationship between “a process chamber” (line 3) and “a process chamber” set forth in claim 2. Likewise, it is unclear as to the relationship between “an inlet chamber” (line 4) and the “at least one inlet chamber” set forth in claim 2, line 14. Also, “the middle section of the set of chambers” lacks proper positive antecedent basis.

Regarding claim 11, it is unclear as to the relationship between “a process chamber” (line

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3) and “a process chamber” set forth in claim 2. Furthermore, it is unclear as to the relationship between “an inlet chamber” (line 5) and the “at least one inlet chamber” set forth in claim 2, line 14. Furthermore, the following terms lack proper positive antecedent basis: “the middle section of the set of chambers” (lines 3-4), “the first inlet chamber” (line 7), “the internal circulation” (line 7), “the second inlet chamber” (line 9) and “the external circulation” (line 9). Furthermore, it is unclear as to what structural elements correspond to “the internal circulation” and “the external circulation”, as well as their relationship to the other elements of the apparatus.

Regarding claims 12-14, it is unclear as to the relationship between “an/the/said inlet chamber” (lines 3, 5, 7-8) and the “at least one inlet chamber” set forth in claim 2, line 14. Likewise, it is unclear as to the relationship between “a process chamber” (line 5) and “a process chamber” set forth in claim 2. Also, “inlets to the process chambers” (line 6), “said two process chambers” (line 7) and “outlets of both of the process chambers” (line 13) lack proper positive antecedent basis, since only a single process chamber is set forth in claim 2. Also, “the adjacent wall” (lines 9, 11) and “the front wall” (line 14) lack proper positive antecedent basis. Also, in claim 13 only, “top closed barrier walls of both of the process chambers” (line 15) lacks proper positive antecedent basis, since only a single process chamber is set forth in claim 2. Furthermore, in claim 14 only, it is unclear as to the structural element corresponding to “the external circulation”, and its relationship with the other elements of the apparatus.

Regarding claim 15, “the rear wall” and “said adjacent wall” lack proper positive antecedent basis.

Regarding claims 18 and 19, “the windbox” lacks proper positive antecedent basis.

Regarding claim 22, the following terms lacks proper positive antecedent basis: “the air

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supply” (line 7), “both side walls” (line 9), “the front wall” (line 9) and “internal circulation IC” (line 12). Furthermore, it is unclear as to what structural element corresponds to “internal circulation IC”, and its relationship to the other elements of the apparatus.

Regarding claim 23, the following terms lack proper positive antecedent basis: “the rear wall” (line 2), “the reactor furnace” (line 2), “the particle separator system” (line 3) and “the external circulation” (lines 3-4). Also, it is unclear as to the structural element corresponding to “the external circulation”, and its relationship to the other elements of the apparatus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Dietz (US 5,299,532).

Regarding claim 1, 4, Dietz (FIG. 1-4) discloses a process chamber (i.e., compartment **92a, 92b, 96a, 96b** within recycle section **32a, 32b**) in connection with a fluidized bed reactor having a furnace (i.e., furnace section **30a, 30b**), wherein process chamber **92a, 92b, 96a, 96b** is located inside of the furnace and adjacent to at least one furnace wall (i.e., wall **24a, 24b**); wherein the interior of said process chamber comprises heat exchanger means (i.e., bank of tubes **104a, 104b**; column 6, lines 25-29); wherein the process chamber comprises a top closed, inclined, barrier wall forming the roof of the chamber (i.e., upper portion **24a''**, **24b''**; column 3, line 55 to column 4, line 7; also

partition **78a**, **78b**; column 5, lines 48-54); and

wherein the inlet into the process chamber (i.e., opening **112a**, **112b**, **114a**, **114b**) is arranged to in lower part of the wall of the process chamber and the outlet from the process chamber (i.e., opening **106a**, **106b**, **110a**, **110b**) is arranged in the upper part of the wall of the process chamber (column 6, lines 30-47).

Regarding claim 2, the same comments with respect to Dietz apply. Furthermore, Dietz (best shown in FIG. 2 and 4) discloses at least one inlet chamber (i.e., compartment **94a**, **94b**; column 8, lines 11-28) provided inside the furnace for directing material to the inlet **112a**, **112b**, **114a**, **114b** of the process chamber **92a**, **92b**, **96a**, **96b**.

Regarding claims 3 and 5, Dietz discloses inlet chamber **94a**, **94b** is arranged in a vertical direction inside the furnace (FIG. 4), wherein the inlet to the inlet chamber **94a**, **94b** is located at its top via an outlet of an external circulation (i.e., outlet of separator **40a**, **40b**) provided at or above the inlet of the inlet chamber (i.e., communicating with conduit **58a**, **58b**; FIG. 1, 2).

Regarding claim 6, Dietz discloses the heat exchanger means **104a**, **104b** is provided in a vertical direction between the inlet **112a**, **112b**, **114a**, **114b** and the outlet **106a**, **106b**, **110a**, **110b** of the process chamber **92a**, **92b**, **96a**, **96b** (see FIG. 1, 4).

Regarding claims 7-9, Dietz discloses the process chamber **92a**, **92b**, **96a**, **96b** and inlet chamber **94a**, **94b** are arranged next to each other and side-by-side on the same wall of the furnace (see FIG. 2, 4), wherein a process chamber is provided on both sides of an inlet chamber (i.e., process chambers **92a**, **96a** on both sides of inlet chamber **94a**).

Regarding claims 10 and 11, Dietz (see FIG. 2, 4) discloses that adjacent the same wall of the furnace (i.e., wall **16a**, **16b**), at least one set of chambers (i.e., a first set comprising

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compartments **94a/96a**; a second set comprising compartments **92b/94b**) is provided in a manner that a process chamber (i.e., comprising compartments **96a/92b**) is providing in the middle section of the set of chambers **94a/96a** and **92b/94b**), and an inlet chamber **94a, 94b** is provided on both sides of process chamber **96a/92b**, the inlet chambers **94a, 94b** being connected to an internal/external circulation.

Regarding claims 12, 13 and 14, Dietz (see FIG. 2, 4; column 8, lines 11-35) discloses that adjacent to the same wall of the furnace (i.e., wall **16a**), at least one set of chambers is provided in a manner that an inlet chamber (i.e., compartment **94a**) is provided in the middle section of the set of chambers and a process chamber (i.e., compartment **92a, 96a**) is provided on both sides of the inlet chamber **94a**;

wherein inlets to the process chamber (i.e., openings **112a, 114a**; FIG. 4) are provided at the lower parts of division walls (i.e., partitions **88a, 90a**; FIG. 2) between the process and inlet chambers, said division walls **88a, 90a** being arranged perpendicularly to the adjacent wall of the furnace **16a, 16b**;

wherein said set of chambers have a common front wall (i.e., partition **68a**; FIG. 2) arranged parallel to the adjacent wall of the furnace **16a**;

wherein the outlet of both process chambers (i.e., openings **106a, 110a**; FIG. 4) is arranged to the upper part of the front wall **68a**; and

wherein the top closed barrier walls **24a''** of both process chambers **92a, 92b** is slanted towards the inlet of the inlet chamber **94a** located on wall **16a** and communication with an outlet of external circulation of solid material via conduit **58a** (see FIG. 1).

Regarding claim 15, Dietz discloses the rear wall of the process chamber (i.e., wall **16a**,

16b) is the adjacent wall of the furnace (see FIG. 2).

Regarding claims 16 and 17, Dietz (FIG. 4) discloses the process chamber **92a, 92b, 96a, 96b** and the inlet chamber **94a, 94b** each comprise a grid (i.e., plate **22a, 22b**) including means for fluidizing the interior of the process chamber (i.e., nozzles **98a, 98b**) from a windbox below the grid (i.e., plenum **28a, 28b**).

Regarding claims 18 and 19, Dietz (see FIG. 4) discloses windbox **28a, 28b** is divided into separate sections (i.e., by wall **60**), each section having its own means for fluidizing.

Regarding claims 20 and 21, Dietz (FIG. 4) discloses the inlet of at least one inlet chamber **94a, 94b** is provided with means for controlling the flow of the solid material into the inlet, the means comprising a segmented area having its own fluidizing air supply means (i.e., taller nozzles **100a, 100b**, with manifold **102a, 102b**; column 8, lines 11-28).

Regarding claim 22, Dietz (FIG. 1, 2, 4; column 5, lines 42-61) discloses the inlet of at least one inlet chamber **94a, 94b** (i.e., on wall **16a, 16b**) is provided with means for controlling the flow of solid material, said means for controlling comprising a segmented area having its own fluidizing air supply means; wherein said fluidizing air supply means comprises a substantially U-shaped form in a horizontal section (i.e., U-shaped partition **76a/78a**; see FIG. 1) having a tube system forming the air supply means placed inside a U-shaped groove (i.e., secondary air inlet **80a** placed between partition **76a/78a**; see FIG. 1); and wherein tube system **80a** together with groove **76a/78a** reaches adjacent to both side walls (i.e., walls **17a, 17b**; FIG. 2) and adjacent to the front wall of the inlet chamber (i.e., wall **16a/16b**), the groove opening upward towards the front wall **16a/16b** (i.e., partition portion **78a** opens upwards; see FIG. 1).

Regarding claim 23, Dietz (FIG. 2, 4) discloses two sets of chambers (i.e., a first set

comprising **94a**, **96a** and a second set comprising **92b**, **94b**) are provided side by side adjacent the rear wall of the furnace (i.e., wall **16a**, **16b**), wherein a particle separator system (i.e., comprising separators **40a**, **40b**; conduits **58a**, **58b**) in connection with the external circulation is divided to feed to flow of solid material to both sets of chambers (column 8, lines 11-28).

Instant claims 1-23 structurally read on the apparatus of Dietz.

6. Claims 1-8, 15-17, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hyppanen (WO 97/46829).

Regarding claims 1 and 2, Hyppanen (FIG. 1, 2) discloses a process chamber (heat transfer chamber **18/218**) in connection with a fluidized bed reactor (reactor chamber **12/212**), wherein process chamber **18/218** is located inside of a furnace and adjacent to at least one of the

furnace walls (i.e., located within common housing **19/219**);

wherein process chamber **18/218** comprises a heat exchanger means in its interior (heat transfer surfaces **46**; FIG. 1; page 1, lines 31-34) and a top closed barrier wall forming a roof for the process chamber (see FIG. 1, 2);

wherein an inlet into the process chamber **18/218** is arranged to in lower part of a wall of the process chamber (i.e., opening **44**; FIG. 1) and an outlet from the process chamber **18/218** is arranged in the upper part of a wall of the process chamber (i.e., outlet **50/250**); and wherein at least one inlet chamber (dilution chamber **16/216**) is provided inside the furnace walls **19/219** for directing material to the inlet of the process chamber **18/218**.

Regarding claim 3, Hyppanen (FIG. 1, 2) discloses the inlet chamber **16/216** is arranged in a vertical direction inside the furnace, wherein the inlet to the inlet chamber **16/216** is located at its top (i.e., adjacent to return duct **32**; adjacent to reactor chamber outlet **226**).

Regarding claim 4, as illustrated in FIG. 2, the barrier wall (i.e., forming the roof of process chamber **218**) is inclined so as to guide material downward into the inlet of the inlet chamber **216**, via a reactor chamber outlet **226**.

Regarding claim 5, Hyppanen (FIG. 1) discloses an outlet of an external circulation (i.e., outlet of separator **14**, with duct **32**) is provided at or above the inlet of the inlet chamber **16**.

Regarding claim 6, Hyppanen discloses the heat exchanger means (i.e., surfaces **46**, FIG. 1; not labeled in FIG. 2) is provided in a vertical direction between the inlet and the outlet of the process chamber **18/218** (i.e., between inlet **44** and outlet **50**; FIG. 1).

Regarding claims 7, 8 and 15, Hyppanen discloses the process chamber **18/218** and inlet chamber **16/216** are arranged next to each other on the same wall **19/219** of the furnace (i.e., the front or rear walls), wherein the rear wall of the process chamber **18/218** is the adjacent wall **19/219** of the furnace (see FIG. 1, 2).

Regarding claims 16 and 17, Hyppanen discloses the process chamber **18/218** and the inlet chamber **16/216** each comprise a grid (grids **36**, **48** in FIG. 1; not labeled in FIG. 2) including means for fluidizing the interior of the process chamber with a fluidizing medium fed from a windbox below the grid (page 12, lines 12-19; page 13, lines 1-12); (see FIG. 1, 2).

Regarding claims 20 and 21, Hyppanen discloses the inlet of the inlet chamber **16/216** is provided with means for controlling the flow of the solid material into the inlet, said means comprising a segmented area having its own fluidizing air supply means (i.e., a separate fluidizing means below grid **36**; FIG. 1; page 12, second paragraph).

Instant claims 1-8, 15-17, 20 and 21 structurally read on the apparatus of Hyppanen.

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7. Claims 1-8, 10, 11, 15-17, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorzegno (US 5,218,931).

Regarding claims 1, 2 and 4, Gorzegno discloses a process chamber (i.e., comprising heat exchange section **80** and compartment **90**; FIG. 1-5) in connection with a fluidized bed reactor having a furnace (i.e., furnace sections **28**, **30**), wherein process chamber **80/90** is located inside of the furnace and adjacent to at least one of the furnace walls (i.e., walls **16**, **18**; FIG. 3); wherein the interior of process chamber **80/90** comprises heat exchanger means (i.e., bank of tubes **94**; column 7, lines 35-40); wherein process chamber **80/90** comprises a top closed, inclined barrier wall forming a roof (i.e., slanted roof **92**; FIG. 4, 5; column 7, lines 7-11); wherein an inlet (i.e., openings **22b**, **24b**; FIG. 1-5) into process chamber **80/90** is arranged to in lower part of the wall of the chamber (i.e., walls **22**, **24**) and an outlet (i.e., openings **22c**, **24c**; FIG. 1-5) from the process chamber **80/90** is arranged in the upper part of the wall of the chamber (i.e., walls **22**, **24**), (see column 7, lines 12-35); and wherein at least one inlet chamber (i.e., compartments **88**) is provided inside the furnace for directing material to the inlet **22b**, **24b** of the process chamber **80/90**.

Regarding claim 3, Gorzegno discloses the inlet chamber **88** is arranged in a vertical direction inside the furnace, wherein the inlet to the inlet chamber is located at its top, communicating with trough **76** (see FIG. 4, 5).

Regarding claim 5, Gorzegno discloses an outlet of an external circulation (i.e., separator outlet **72** with trough **76**) is provided at or above the inlet of the inlet chamber **88** (see FIG. 1, 4, 5; column 6, lines 49-56).

Regarding claim 6, Gorzegno discloses heat exchanger means **94** is provided in a vertical direction between inlet **22b**, **24b** and outlet **22c**, **24c** of process chamber **80/90** (see FIG. 1).

Regarding claims 7 and 8, Gorzegno discloses process chamber **80/90** and inlet chamber **88** are arranged next to each other and side-by-side on the same wall of the furnace (i.e., on walls **20**, **26**; see FIG. 2, 3).

Regarding claim 10, Gorzegno discloses that adjacent to the same wall of the furnace **28**, **30**, a process chamber **80/90** is provided in the middle section of the set of chambers (see FIG. 2, 3), and the inlet chamber **88** is provided on both sides of the process chamber **80/90** to deliver solid material to the process chamber, via inlets **22b**, **24b**.

Regarding claim 11, Gorzegno discloses an inlet chamber **88** is provided on both sides of the process chamber **80/90** (see FIG. 2, 3) wherein the inlet chambers are connected for internal/external circulation via separators **56**, **58**.

Regarding claim 15, Gorzegno discloses the rear wall (i.e., wall **16** or **18**; FIG. 2-5) of the process chamber **80/90** is the adjacent wall of the furnace **28**, **30**.

Regarding claims 16 and 17, although not shown in the drawings, Gorzegno discloses the process chamber **80/90** and inlet chamber **88** each comprise a grid including means for fluidizing the interior with a fluidizing medium fed from a windbox below (column 7, lines 41-47).

Regarding claims 20 and 21, although not shown in the drawings, Gorzegno discloses the inlet of at least one inlet chamber **88** is provided with means for controlling the flow of the solid material into the inlet, wherein the means comprises a segmented area having its own fluidizing air supply means (column 7, lines 41-47).

Instant claims 1-8, 10, 11, 15-17, 20 and 21 structurally read on the Gorzegno apparatus.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449.

The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung

May 20, 2004 *jle*

Hien Tran

**HIEN TRAN
PRIMARY EXAMINER**